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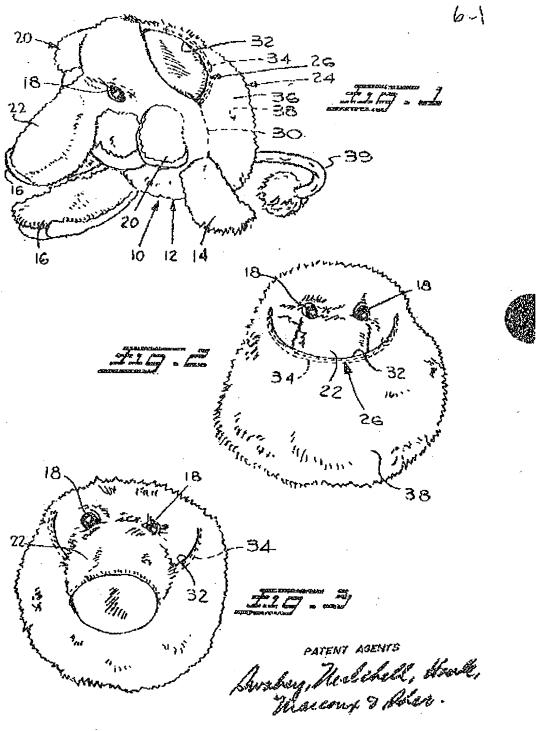
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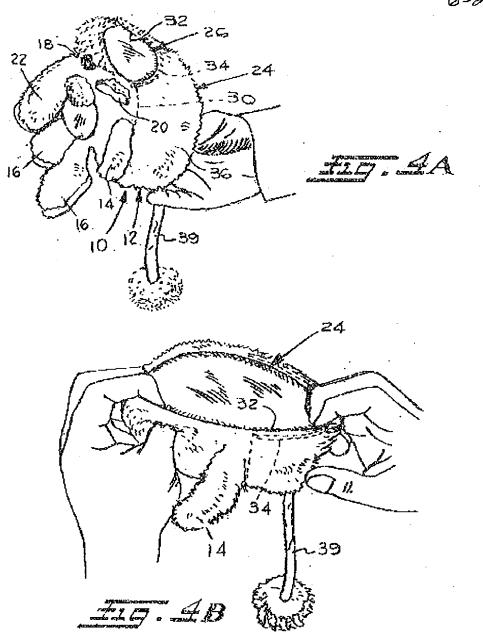
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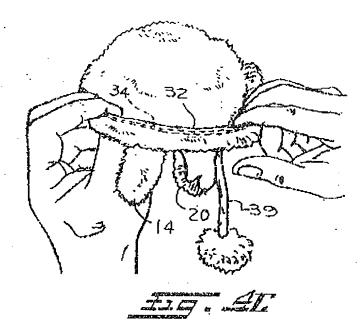
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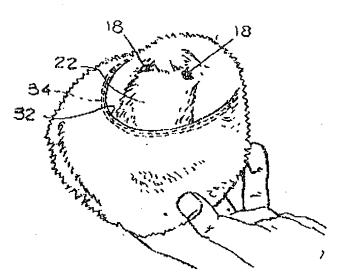




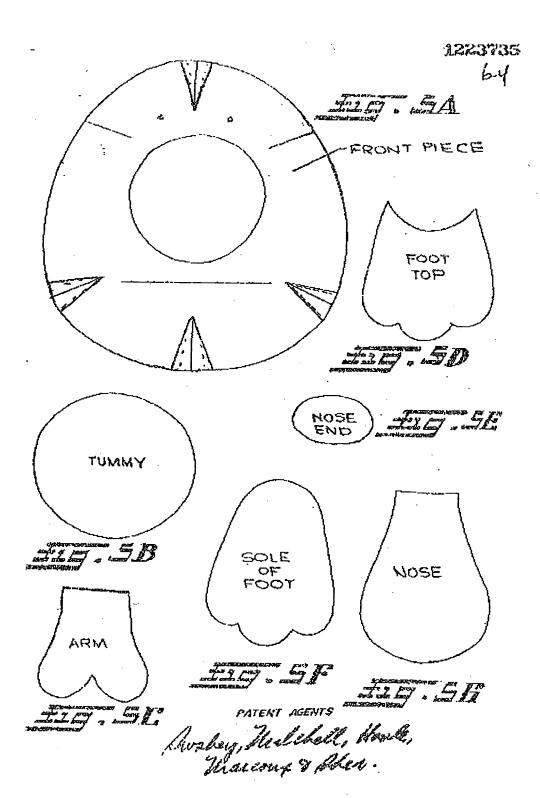
PATENT AGENTS

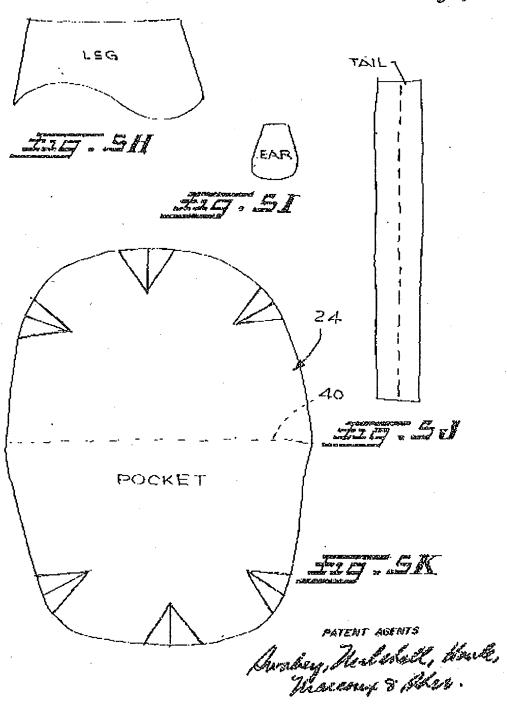
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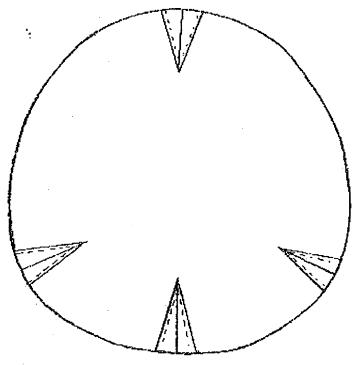




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PATENT AGENTS

Andry Tentebell, Houle, Misserry & Alar.

EldInp

Abstract

A toy figure which is progressively transformable into fferent configurations. The figure has a body portion oprising a mass of compliant fill material with a fabric cover areover, The body portion has funciful material(e.g. facial aponents and appendages) integral therewith. A fabric segment secured to the body portion and forms a pocket on the body ction. The pocket is resiliently deformable to allow parts or body portion and its fanciful material to be forced through pocket as the toy is changed from one configuration to other. The pocket has a memory and, whom a desired insformation is achieved, the pocket is contractable to hold s figure in a new configuration. The toy figure preferably sicts a fanciful three dimensional character in one of its tic configurations and is transformed into a ball-like form in ther of its basic configurations. When the figure is in its 1-like form, some of the fanciful material is visible to give : hall-like form a fanciful appearance.

TRANSFORMABLE TOY FIGURE

Introduction

The present application related to a toy figure which can be gressively transformed (changed) into different configurations. rolates particularly to a toy figure with a specially formed ket that is resiliently deformed to allow the toy figure to be gressively transformed into different configurations.

Background

Toy figures that can be changed from one configuration to ther have been suggested in the past. One such toy figure is while U.S. Patent 4,413,442. The patent discloses a toy ure that can be changed from one discrete configuration (e.g., egg) to another discrete configuration (e.g., an animal such a duck). The toy is changed by folding back the poter ering of the egg and pushing the body portion of the animal ough an opening in the egg covering. The portion of the ering that has been folded back is then locked in place by cro strips to maintain the figure in the configuration of an mal. The patentee indicates that the foregoing type of reformation is designed to serve an educational function by leting to a child the transformation from an egg to a related mal.

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Other types of changeable toy figures are shown in U.S. Itenta 1,396,766; 2,195,127; and 4,336,665. In U.S. Patent. .336,665, a stuffed toy figure has a body portion with two heads mneeted to each other, and a skirt which catries the toy's pendages. The skirt is inverted between one of two discrete sitions to cover one head portion and expose the other head artion. The appendages carried by the skirt form the appendages sectiated with either of the head portions. In U.S. Patents 396,766 and 2,195,127, there are also a pair of head portions mneeted to each other, and each head portion has at least some pendages also connected to it. A skirt, which does not carry pendages, is inverted between the head portions to cover one and portion and its associated appendages, and to expose the

Finally, there are currently on the market toya known as ransformers", "go-bots", etc., which comprise mechanical sments that are manipulated to transform the toys between ifferent configurations(e.g. between robots and vehicles).

Bummary of The Invention

The present invention relates to a transformable toy figure th a unique structure for progressively transforming the toy gare between different configurations.

The toy figure of the present invention has a body portion

h fanciful material thereon and a special fabric segment ured thereto. The special fabric segment defines a pocket on figure. The pocket can be resiliently (elastically) deformed allow the figure to be progressively transformed from one figuration to another. The pocket has a memory which enables to hold the figure in a selected configuration.

The resiliently deformable pocket has a resiliently ormable opening through which selected portions of the body tion can be forced during transformation of the figure from configuration to another. The pocket's memory normally tends contract the size of the opening toward a predetermined set. pocket is resiliently expandable as the figure is transformed to one configuration to another. When a desired transformation tenieved, the pocket is allowed to contract to maintain the tree in its transformed configuration.

In a first basic configuration of the toy, the body portion fanciful material (preferably appendages and facial ponents) integral therewith. The special fabric segment is sected with the body portion in such a way that in the first diguration, the pocket and the fanciful material are displayed separate locations on the outer periphery of the body portion. I second basic configuration, the pocket is inverted, and counds a selected part of the body portion and its fanciful

cerial. In the preferred embodiment, when the figure is in its cond configuration, it has a ball-like form, with some of the sciful material at least partly visible and giving the ball-te form a fanciful appearance.

The toy figure of the invention has two basic modes of insformation between its basic first and second configurations. one mode of transformation, the pocket is resiliently deformed progressively cover a portion of the fanciful material on the ly portion as the figure is transformed from its first ifiguration to its second configuration. In another mode of insformation, the pocket is resiliently deformed to ogressively uncover the fanciful material on the body portion the figure is transformed from its second configuration to its set configuration.

Due to the memory of the pocket, the toy figure can be ntained in a variety of intermediate configurations during her of its first or second modes of transformation. During her mode of transformation, if the forces causing the ormation are removed, and the pocket is allowed to contract er its memory, the figure will assume a configuration ermined primarily by the amount of the body portion and its ciful material that is enclosed(covered) by the pocket.

with the toy figure according to the preferred embodiment,

at least some of the functival material on the body portion is visible in all of the different configurations of the toy, and contributes to the functival look of the toy in each configuration. The pocket is resiliently deformable to allow transformation of the Figure from one configuration to another, and its memory enables the pocket to hold the figure in different configurations as the tay figure is transformed between its first and second basic configurations.

According to a still further broad aspect of the present invention there is provided a toy figure which is transformable between first and second configurations. The toy figure comprises a body portion having fanciful material integral therewith. Means enables transformation of the toy figure between its first and second configurations and comprises a fabric segment integral with the body portion and forming a pocket thereon. The pocket has an opening and is resiliently deformable, and further has a memory which contracts the pocket toward a predetermined set when forces causing deformation of the pocket are removed. The pocket is resiliently deformable to expand the size of the pocket as the toy figure is transformed from one configuration to another. The labric segment has first and second surfaces. The pocket is inverted as the toy figure is transformed between its first and second configurations such that (i) one of the first and second surfaces of the fabric segment is maintained in facing relation to and at least partially against a part of the body portion, and the other surface defines part of the outer periphery of the

the other of the first and second anylaces of the fabric segment is maintained in facing relation to and at least partially against a part of the body portion and the one surface defines part of the outer periphery of the figure when the figure is in its second configuration. The pocket is resiliently deformable to progressively uncover the fanciful material in a first mode of transformation of the toy figure between the first and second configurations. The pocket is resiliently deformable to progressively cover the fanciful material in a second mode of transformation of the low figure between the first and second configurations. The nearly determined in a second mode of transformation of the toy figure between the first and second configurations. The memory of the pocket combined the pocket to hold the toy figure in a selected configuration during either of the first or second modes of transformation of the toy figure,

Other features of the present invention will be further apparent from the following detailed description and the annexed drawings.

Figure 1 is a three dimensional view of a transformable toy figure according to the invention, in one of its basic configurations;

Figure 2 is a three dimensional view of the transformable toy figure of the invention, in another one of its basic configurations;

Figure 3 is a three dimensional view of the transformable toy figure of the invention, in an intermediate configuration;

Pigures 4A-4D schematically illustrate the manner in which

transformable toy figure of the invention is transformed ween two of its configurations; and

Figures 5A-5L schematically illustrate different fabric :term pieces for forming a transformable toy figure according the principles of the present invention.

Detailed Description of The Preferred Embodiment
The principles of the present invention are particularly
sful in forming a stuffed toy figure. The invention is
scribed below in connection with a stuffed toy figure.

A stuffed toy figure according to the present invention can transformed between distinctly different basic configurations. one basic configuration (figure 1) the stuffed toy figure has writel material which may include facial components (eyes, 5, nose, mouth) and appendages (tail, arms, legs) which give toy figure the appearance of a fanciful character. In their basic configuration (figure 2) the stuffed toy figure has all-like form, with some of the fanciful material(e.g. eyes) the thereon. The toy is transformed between its basic figurations by deforming a specially formed packet on the ure.

Referring to Figure 1, the stuffed toy figure has a body thom 10 comprising a fabric cover 12 with a soft, compliant 1 material therein. The fabric cover can be any commercially

vailable material for forming stuffed toy Rigures (e.g. plush lle). The fill material may be made of a suitable, commercially vailable fill material (e.g. fiber fill, polyurethane, etc.).

The body portion 10 has a series of appendages and solal components integral therewith. The appendages include ags 16 and arms 16. The facial components include eyes 18, ears 1, and a nose 23.

The stuffed toy figure also has a special fabric segment 24 innected to the body portion 10. The fabric segment 24 is eferably sewn to the fabric cover 12 and forms a pocket 26 on the dy portion 10. The pocket 26 includes an opening 32, described are fully hereinafter.

When the figure is in the configuration of figure 1, the loket 26 and the fanciful material are displayed at different cations on the outer periphery of the hody portion 10. When a figure is in the ball-like form of figure 2, the pocket 26 closes a substantial part of the body portion and its fanciful terial, but leaves at least some of the fanciful material sible to the give the ball-like form a fanciful appearance.

In this application, reference to a "resiliently formable" pocket means a pocket with the capability to expand siliently (elastically), particularly in the area defining the ening in the pocket, due to characteristics such as:

- a. a partially tensioned length (or piece) of elastic fixed(sewn) to the fabric in the area of the opening;
- b. the fabric itself being resiliently(elastically) expandablo, such as for example;
 - (1) the fabric comprising resiliently deformable fibers;
 - (ii) the fabric being in a woven pattern that allows it to expand and contract resiliently; and

c. combinations of the foregoing.

According to the preferred embodiment, the resiliently formable pocket 26 is formed by a fabric segment 24 whose bers have inherent resiliency, and a partially tensioned length elastic sewn to the fabric segment in the area of the opening. More specifically, the fabric segment 24 is preferably a ecc of compliant, napped knit fabric material, which can retch elastically and which has its own memory. Suitable tarials for the fabric segment 24 are napped knit plush pile 1 valour. The fabric segment 24 are napped knit plush pile 1 valour. The fabric segment 24 is secured, preferably sewn, the fabric cover 12 along a seam shown at 36 in figure 1 in ler to form the pocket 26. An unsewn length of the fabric ment 24 defines the opening 32 in the pocket 25.

The length or piece of clastic is shown at 34 in the sures. The length of elastic is preferably sewn to the fabric

regrent 24, along the length of the fabric segment which defines he opening 32 in the pocket 26. The length of elastic 14 is swn to the fabric while the langth of elastic is under a state tension (elongation), and when the external source of tension removed, the elastic contracts the size of the opening 32 mewhat, but the fabric maintains the piece of elastic in a stially tensioned state. The partially tensioned piece of astic helps provide the pocket with its memory, tending to intract the size of the opening in the pocket toward a eletermined set in which the size of the opening 32 is as small possible. The pocket, particularly in the area of the opening during transformation of the figure from one configuration of the configuration of the configuration of figure 1) to another configuration of the configuration of figure 2).

In the configuration of figure 1, the toy stuffed figure picts a fanciful character, with the pocket 26 located on the ok of the character. The appendages and the facial components the figure are completely exposed, and the pocket 26 is attracted to form a segment of the character's back. The surface of the fabric segment 24 on the cutside of the pocket 26 forms at of the outer periphery of the figure. The other surface 38 the fabric segment is disposed on the inside of the pocket 26 and

i not visible when the toy figure is in the configuration of gure 1. The tail 19 of the character is connected to the inface 36 of the fabric segment 24, and the tail 39 is located: the end of the pocket 26 remote from the opening 32 in the ocket 26.

In transforming the toy stuffed figure from the infiguration of figure 1 to the configuration of figure 2, the cket 25, particularly the opening 32, is expanded, and the body rtion 10, its attached appendages and fedial components, are reed through the opening 32. The pocket 26 is inverted, so at it progressively encloses the body portion and the pendages, and partially encloses some of the facial components. ring this transformation, if it is desired to maintain the gurs in a new configuration, the fabric segment 24 is allowed contract, in accordance with its memory, to maintain the new ometry of the figure. For example, when the figure is ansformed to the ball-like form of figure 2, the fabric segment is allowed to contract to maintain the figure in the ball-like rm, with the eyes and part of the mose visible on the outer riphery of the new figure. This gives the ball-like form of gurs 2 its own fanciful appearance.

The manner in which the stuffed toy figure is transformed on the configuration of figure 1 to the configuration of figure

is more specifically shown in figures 4A-4D. The body portion to id the end of the pocket 26 carrying the tail 39 are forced ward through the opening 32 in the pocket 26, and the pocket is ogressively inverted(see figures 4B and 4C). This results in the dy portion and its attached appendages being forced upwardly rough the opening 32, and also in the pocket 26 being inverted oover the tail 39, the appendages and a portion of the facial mponents(see figures 4C and 4D). The figure will now have a 11-like form with portions of the facial components (i.e., the es and part of the nose) still visible on the outer periphery the new figure. During this transformation, the surfaces of a pocket are inverted, so that the surface 38 of the fabric gment 24 now defines part of the outer periphery of the figure the configuration of figure 2. When the pocket 26 is allowed contract, it will surround a substantial part (i.e., more than of the body portion 10 of the figure, and will maintain the gure in its ball-like form. The partly covered nose and posed eyes will give the ball-like form a unique fanciful pearance.

When the stuffed toy figure is in its ball-like cm, it can be further transformed between different fanciful ofigurations while still maintaining its basic ball-like pearance. For example, the figure can be readily changed from

mply forcing the character's mose completely outside opening 32 the pocket 26. The opening 32 in the pocket 26 will readily form resiliently to allow that transformation, and the pocket, an allowed to contract, will maintain the figure in the infiguration of figure 3. Similarly, the figure can be further diffied, by deforming the pocket, especially the opening 32, to agreesively uncover other portions of the facial components d/or the appendages, and then allowing the pocket 26 to intract when the figure is in a desired form.

The fabric pieces which can be used to form a fabricitul aracter as depicted by the figures are shown in figures 5A-5L. eferably, a front piece (figure 5A), a tummy piece(figure), and a back piece(figure 5L) which is slightly larger than a front piece, are sewn together to form the body portion of a figure. Separate fabric pieces are used to form the pendages, the facial components and the tail of the character(a figures 5C-5J). A separate fabric piece(figure 5K) is used form the special fabric segment 24.

The fabric asgment 24 is preferably a folded over piece of bric with the length of elastic sewn to a seam 40 on the fold me of the fabric piece(see figure 5K). The fabric segment 24 buld be large enough(in surface area) in relation to the body

rtion 10 of the figure so that the pocket will have sufficient tume to enclose a substantial part of the body portion 10 when a figure is in its ball-like form.

With a toy figure constructed according to the principles of a invention, there are many configurations the figure can be smed into during progressive transformation of the figure tween the configuration of figure 1 and the configuration of gure 2. The transformation can be stopped at almost any point 1, by allowing the pocket to contract, the pocket will hold the gure in its new configuration.

The preferred form of the invention provides a figure in ich the fanciful material comprises facial components, and at set some of the facial components are displayed on the outer metry of the figure when the figure is in its ball-like form. Here, it is contemplated that the principles of the invention and he applicable to form a figure whose fanciful material prises something other than facial components. Further, the neighbor of this invention may also be used to form a figure in the resiliently deformable pocket encloses all of the ciful material on the body portion when the figure is in its 1-like form. With the latter type of figure, the ball-like meight not have the same fanciful appearance as the figure of preferred embodiment. However, the resiliency and the memory

the pocket would still allow the figure to have the same modes progressive transformation described above in connection with a preferred embodiment, and the figure can be placed in ferent fanciful configurations during either mode of ansformation.

Furthermore, it is contemplated that the Pabric segment rming the pocket could itself have some functful material either of its opposite sides, in order to form part of the wiful appearance of the figure in any of its configurations.

Also, while the preferred form of the body portion 10 is a stuffed material, it is also contemplated that the the body rtion can be made of other materials (e.g. vinyl). In the case a vinyl body portion, the body portion would not necessarily be affed. However, the pocket would still be made from a siliently deformable segment of napped knit fabric (e.g. plush le) that is secured to the body portion.

Thus, with the concepts of the present invention, it is saible to form fanciful stuffed figures that are readily insformed into different configurations. With the foregoing sclosure in mind, the manner in which the principles of the rention can be applied to form all sorts of fanciful changeable sures will be readily apparent to those of ordinary skill in art.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A toy figure which is transformable between first and second configurations, comprising a body portion having fanciful material integral therewith, and means enabling transformation of the toy figure between its first and second configurations comprising a fabric segment integral with said body portion and forming a pocket thereon; said pocket having an opening, said pocket being resiliently deformable and having a memory which contracts the pocket toward a predetermined set when forces causing deformation of the pocket are removed; said pocket being resiliently deformable to expand the size of the pocket as the toy figure is transformed from one configuration to another; the fabric segment having first and second surfaces; the pocket being inverted as said toy figure is transformed between its first and second configurations such that (i) one of the first and second surfaces of the fabric

segment is maintgined in facing relation to and at least partially against a part of the body portion and the other surface defines part of the outer periphery of the figure when the figure is in its first configuration and (ii) the other of the first and second surfaces of the fabric segment is maintained in facing relation to and at least partially against a part of the body portion and the one surface defines part of the outer perlphery of the figure when the figure is in its second configuration; said pocket being remiliently deformable to progressively uncover said funciful material in a first mode of transformation of the toy figure between said first and second configurations; said pocket being resiliently deformable to progressively cover said fanciful material in a second mode of transformation of the toy figure between said first and second configurations; the memory of the pocket enabling the pocket to hold the toy figure in a selected configuration during either of said first or second modes of transformation of the toy figure.

2. A toy figure as defined in claim 1, wherein said fabric segment and said body portion cooperate to define the opening in said pocket, said body portion and said fabric segment being configured such that said hody portion passes through the opening as the figure is transformed between its first and second configurations.

- 3. A toy figure as defined in claim 2 wherein at least come of the functiful material integral with the body portion forms part of the outer periphety of the figure in each of its first and second configurations.
- 4. A toy figure as defined in claim 3, wherein said fanciful material comprises facial material integral with said body portion, said facial material and said pocket being disposed at different locations on the body portion when the figure is in said first configuration, said pocket covering at least part of the body portion and the facial material and causing the figure to have a ball-like form when the figure is in said second configuration, at least some of the facial material on the body portion defining part of the outer periphery of the toy figure when the toy figure is in its ball-like form, to give the toy figure a fanciful appearance when the figure is in its ball-like form.
- 5. A toy figure as defined in claim 4 wherein the facial material includes an eye portion connected with the body portion, said eye portion being at least partly visible when the figure is in its ball-like form.
- 6. A toy figure as defined in claim 4, wherein a partially tensioned length of elastic is connected with said fabric segment in the area of said opening of said pocket, said partially tensioned length of elastic biasing the opening in the pocket in a manner tending to contract the opening toward a

predetermined set, said partially tensioned length of elastic allowing the opening in said pocket to expand resiliently during transformation of the figure from one configuration to another.

- J. A toy figure as defined in claim 6 wherein said body portion comprises a mass of compliant fill material with a compliant fabric cover thereover.
- 8. A toy figure as defined in claim 7 wherein said fanciful material comprises appendages integral with said body portion, said pocket being resiliently expandable to cover a selected part of said body portion and its appendages when said figure is in its ball-like form.
- 9. A toy figure as defined in any of claims 6, 7 or 8 wherein said fabric segment comprises a segment of resiliently deformable fiber material secured to said body portion.
- 10. A toy figure as defined in claim 2, wherein said pocket is resiliently expandable to cover a selected portion of said body portion and its fanciful material and to give the figure a hall-like form when said figure is in said second configuration.
- 11. A toy figure as defined in claim 10 wherein a partially tensioned length of clastic is connected with said fabric segment in the area of said opening formed in said pocket, said length of clastic providing said pocket with at

least part of its memory and allowing the size of the opening in said pocket to be resillently deformed during transformation of said figure from one configuration to another.

- 12. A toy figure as defined in claim 11 wherein said body portion comprises a mass of compliant fill material with a compliant fabric cover thereover.
- 13. A toy figure as defined in claim 12 wherein the fanciful material includes facial material connected with the body portion, at least part of said facial material being visible in all configurations of said toy figure.
- 14. A toy figure as defined in claim 13 wherein said fanciful material comprises appendages integral with said body portion, said pocket covering a selected part of said body portion and its appendages when said figure is in its ball-like form, the memory of the pocket enabling the pocket to hold the figure in its ball-like form.
- 15. A toy figure as defined in any of claims 10, 11, or 12 wherein said fabric segment comprises a segment of resiliently deformable fiber material secured to said body portion.
- 16. A toy figure as defined in claim 2 wherein a partially tensioned length of elastic is connected with said fabric segment in the area of said opening in said pocket, said partially tensioned length of elastic providing the opening said pocket with a memory causing the opening in said pocket to contract toward a predetermined set, and said partially

tensioned length of elastic allowing the size of the opening in said pocket to be resiliently deformable during transformation of said figure from one configuration to another.

- 17. A toy figure as defined in claim 16 wherein the fanciful material includes facial material connected with the body portion, at least part of said facial material being visible in all configurations of said toy figure.
- 18. A toy figure as defined in claim 17 wherein said body portion comprises a mass of compliant fill material with a compliant fabric cover thereover.
- 19. A toy figure as defined in claim 18 wherein said fanciful material comprises appendages integral with said body portion, said fabric segment being resiliently expandable to enable the pocket to cover a selected part of said body portion and its appendages and to give the figure a ball-like form when said figure is in its second configuration, the memory of the fabric segment enabling the fabric segment to hold the figure in its ball-like form.
- 20. A toy figure as defined in any of claims 16, 17, or 18 wherein said fabric segment comprises a segment of resiliently deformable fiber material secured to said main body portion.
- 21. A toy figure as defined in claim 2 wherein said fanciful material and said pocket are disposed at different locations on said body portion when said figure is in eald

first configuration, and said pocket covers a selected portion of said body portion and its fanciful material and biases the figure to a ball-like form when said figure is in said second configuration.

- 22. A toy figure as defined in claim 21 wherein a partially tensioned length of elastic is connected with said fabric segment in the area of said opening in said pocket, said partially tensioned length of elastic providing said pocket with at least part of its memory and allowing the size of the opening in said pocket to be resiliently deformed during transformation of said figure from one configuration to another.
- 23. A toy figure as defined in claim 22 wherein said body portion comprises a mass of compliant fill material with a compliant fabric cover thereover.
- 24. A toy figure as defined in claim 23 wherein said fanciful material includes facial material connected with the body portion, at least part of said facial material being visible in all configurations of said toy figure.
- 25. A toy figure as defined in claim 24 wherein said functful material comprises appendigs integral with said body portion, said pocket covering a selected part of said body portion and its appendiges when said figure is in its ball-like form, the momory of the pocket enabling the pocket to hold the figure in its ball-like form.

26. A toy figure as defined in any of claims 21, 22 or 23 wherein said fabric acgment comprises a segment of resiliently deformable fiber material secured to said main body portion.

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